



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/578,318

12/20/2006

Thierry Livache

127911

5574

92793

7590

11/01/2010

Oliff & Berridge, PLC

P.O. Box 320850

Alexandria, VA 22320-4850

EXAMINER

KAUR, GURPREET

ART UNIT

PAPER NUMBER

1759

NOTIFICATION DATE

DELIVERY MODE

11/01/2010

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

OfficeAction92793@oliff.com

jarmstrong@oliff.com

Office Action Summary	Application No. 10/578,318	Applicant(s) LIVACHE ET AL.	
	Examiner GURPREET KAUR	Art Unit 1759	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) 16-28 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>5/19/2010 and 5/04/2006</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Status of the Claims

1. Claims 1-28 are pending.

Claims 1-15 are being examined and claims 16-28 are withdrawn.

2. Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Group I, claim(s) 1-15, drawn to a device for receiving fluid sample.

Group II, claim(s) 16-24, drawn to a process for sampling and transporting a fluid sample.

Group III, claim(s) 25-28, drawn to a process for forming an electrochemical cell.

The groups I, II and III of inventions listed above do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: Groups I, II and III share the features of the device comprised of end part, an opening, a cavity, first electrically insulating hydrophobic zone and a second electrically conducting hydrophilic zone. However, Moore (WO 00/25923) teaches a dropping tool with the same features (see figures 8-12) as of claimed invention.

During a telephone conversation with Jomy Methipara on 10/18/2010 a provisional election was made without traverse to prosecute the invention of group I, claims 1-15. Affirmation of this election must be made by applicant in replying to this Office action. Claims 16-28 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Since the common feature does not make contribution over the prior art, unity of invention is lacking and restriction is proper.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Objections

Claim 14 is objected to because of the following informalities: claim 14 recites in line 2 "shape of **an** S..." it should rather state "shape of **a** S...". Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Art Unit: 1759

Claims 1-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation "the first zone" in line 8. There is insufficient antecedent basis for this limitation in the claim.

Claim 2 recites the limitation "the hydrophobic nature" in line 1. There is insufficient antecedent basis for this limitation in the claim.

Regarding claim 9, examiner is unclear as to which embodiment teaches the sleeve is made of conducting material with the protruding part coated with layer of hydrophobic material. For examination purposes, examiner is construing that applicant intended to indicate rod is made up of conducting material with the protruding part coated with layer of hydrophobic material.

Regarding claim 6, the phrase "for example" in line 7 renders the claim indefinite because it is unclear whether the limitation(s) following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 1759

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

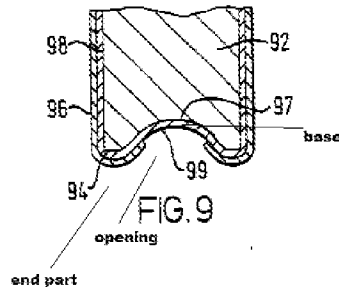
1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-5, 6-9, 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moore et al. (WO 00/25923).

Regarding claims 1, 2 and 4, Moore et al. teaches a dropping tool for transferring drops of liquid (see abstract) comprised of:

end part (near the tip) with a recess (97) which opens to an opening, the reservoir has a base and end part has a hydrophobic layer (layer 96) which is at the periphery of the recess opening (see figure 9 below). A second electrically conducting hydrophilic zone (98) is adjacent to the hydrophobic layer and covers the base of the recess (see figure 9 below). The recess holds the drop of liquid when the tip of the dropping tool is in contact with the liquid (see page 6 description of figure 9).

Moore et al. does not specifically teaches the device is configured to form an electrode but however Moore et al. teaches the hydrophilic layer is comprised of amorphous carbon or platinum metal (see page 8, ll. 1-3 and page 4, description of figure 5) which is formed around the recess. Amorphous carbon or platinum metal are inherently electrically conductive and thus it would be obvious the dropping tool can be configured to form an electrode.



Regarding claim 3, the hydrophobic layer (96) extends into the recess without covering the base (see figure 9 above).

Regarding claim 5, Moore teaches the end part comprised of recess (97) which has layer of hydrophilic material such as amorphous carbon and platinum metal (see page 8, ll. 1-3 and page 4, description of figure 5). Amorphous carbon or platinum metal are inherently electrically conductive.

Regarding claim 6, Moore teaches the recess is made deep enough to hold the liquid drop which has size of about 0.1 mm or less (see col. 4, ll. 59-61 and col. 6, ll. 1-3), thus recess has depth in the range of 0.1 mm = 100 micrometer or less to retain the liquid drop of 0.1 mm and has volume in the range of 0.1 picoliter to 1 microliter. Moore does not explicitly indicate diameter of the opening, however the cavity has to have a diameter opening of 0.1mm or greater to retain liquid drop of size 0.1mm, therefore the

Art Unit: 1759

cavity depth/opening diameter ratio range is from 0.01 to 1. Moore also teach the recess has circular cross-section with substantially conical shape (see figure 9).

Regarding claims 7, 8, 12 and 13, Moore teaches rod (substrate 92) one side of the end part with a hydrophobic layer, 98 that has protruding end (protruding end at element 94) which extends beyond the end of the substrate (see figure 9 above). Moore further teaches the substrate is made up of Teflon (see page 4, see description of figure 5), which is inherently capable of elastic deformation.

Regarding claim 9, Moore teaches the rod (substrate 92 made up of Teflon) and protruding part (protruding end at element 94) of the substrate is coated with hydrophobic layer (98) (see page 4, see description of figure 5 and page 6 description of figure 9).

Claims 10, 11, 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moore et al. as applied to claim 1 above, and further in view of Vann et al. (U.S. Pub. No. 2001/0010206).

Regarding claims 10 and 11, Moore teaches a pressure wave is used to in the body of the pin such that pressure causes the drop of liquid to become projected out from the tip of the pin on to the substrate (see page 6 paragraph 2). Moore et al. does not teach device comprised of damping element (spring) which will reduce the impact on the device when it comes in contact with the substrate surface.

Art Unit: 1759

However, Overbeck et al. teaches a fluid deposit element (12) which is comprised of damping element (spring, 22) to provide pressure to dispense the fluid (see col. 4, ll. 31-33 and figure 2). Furthermore, the spring bias the fluid deposit element for repeatable positioning (see col. 9, ll. 19-26), thus it is obvious the spring will reduce the impact on the device when it comes in contact with the substrate surface.

Therefore it would be obvious to person of ordinary skill in the art at the time of the invention to use spring as means to induce pressure as taught by Overbeck in the device of Moore's device because both Overbeck and Moore are performing the same task of dispensing liquid via pressure and moreover spring bias the fluid deposit element or dropping tool for repeatable positioning (see col. 9, ll. 19-26).

Regarding claim 14, Overbeck teaches the fluid deposit element is comprised of spring in the shape of S (see figure 1B).

Regarding claim 15, Overbeck teaches the fluid deposit element (12) retract and extend in the carrier (17) via spring-loaded bearings such that lowering the carrier causes precise position of the tip to the substrate (see col. 7 ll. 65-67 over to col. 8 ll. 1-6).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to GURPREET KAUR whose telephone number is (571)270-7895. The examiner can normally be reached on Monday-Friday 9:00-5:30pm EST.

Art Unit: 1759

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ula C. Ruddock can be reached on (571)272-1481. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/G. K./

Examiner, Art Unit 1759

/Ula C Ruddock/

Supervisory Patent Examiner, Art Unit 1795